

**CLAIMS**

1. A woven composite fabric, said fabric comprising metal elements and polymer elements, said metal elements comprising at least one of metal wires, bundles of metal wires, metal strands and metal cords, wherein said polymer elements are polymer tapes, and wherein said metal elements have a diameter greater than approximately 40  $\mu\text{m}$ .  
5
2. A woven composite fabric as in claim 1, wherein each of said polymer tapes has an essentially rectangular cross-section.  
10
3. A woven composite fabric as in claim 2, wherein said cross-section has a thickness less than approximately 1000  $\mu\text{m}$ .
4. A woven composite fabric as in claim 2, wherein said cross-section has a width less than approximately 10 mm.  
15
5. A woven composite fabric as in claim 1, wherein said fabric has a warp direction and a weft direction, wherein all of said metal elements are present in said warp direction.  
20
6. A woven composite fabric as in claim 1, wherein said fabric has a warp direction and a weft direction, wherein said metal elements are present in said warp direction, and wherein said polymer tapes are present in said weft direction.  
25
7. A woven composite fabric as in claim 1, wherein said metal elements have an inweaving factor substantially equal to 1.

8. A woven composite fabric as in claim 1, wherein said metal elements are steel cords.
9. A woven composite fabric as in claim 1, wherein said fabric has a plain woven structure.
10. A woven composite fabric as in claim 1, wherein said fabric has a double weft structure worked in a plain-weave manner.
11. A woven composite fabric as in claim 1, wherein each of said metal elements is coated with a polymer layer.
12. A reinforced hose comprising:
  - a hose; and
  - a woven composite fabric as in claim 1 connected to the hose.
13. A woven composite fabric as in claim 1, wherein said metal elements have a diameter greater than approximately 100  $\mu\text{m}$ .
14. A woven composite fabric as in claim 1, wherein said metal elements have a diameter in the range of approximately 100  $\mu\text{m}$  to 400  $\mu\text{m}$ .
15. A woven composite fabric, said fabric comprising metal elements and polymer elements, said metal elements each comprising a plurality of metal wires, wherein said polymer elements are polymer tapes.
16. A woven composite fabric as in claim 15, wherein each of said polymer tapes has an essentially rectangular cross-section.

17. A woven composite fabric as in claim 16, wherein said cross-section has a thickness less than approximately 1000  $\mu\text{m}$ .
18. A woven composite fabric as in claim 16, wherein said cross-section has a width less than approximately 10 mm.  
5
19. A woven composite fabric as in claim 15, wherein said fabric has a warp direction and a weft direction, wherein all of said metal elements are present in said warp direction.  
10
20. A woven composite fabric as in claim 15, wherein said fabric has a warp direction and a weft direction, wherein said metal elements are present in said warp direction, and wherein said polymer tapes are present in said weft direction.  
15
21. A woven composite fabric as in claim 15, wherein said metal elements have an inweaving factor substantially equal to 1.  
20
22. A woven composite fabric as in claim 15, wherein said fabric has a plain woven structure.  
25
23. A woven composite fabric as in claim 15, wherein said fabric has a double weft structure worked in a plain-weave manner.
24. A woven composite fabric as in claim 15, wherein each of said metal elements is coated with a polymer layer.  
25. A reinforced hose comprising:  
a hose; and  
30 a woven composite fabric as in claim 15 connected to the hose.

26. A woven composite fabric, said fabric comprising metal elements and polymer elements, said metal elements comprising at least one of metal wires, bundles of metal wires, metal strands and metal cords, wherein said polymer elements are polymer tapes, and wherein said metal elements are separated by a distance not greater than approximately 10 mm.

5

27. A woven composite fabric as in claim 26, wherein each of said polymer tapes has an essentially rectangular cross-section.

10

28. A woven composite fabric as in claim 27, wherein said cross-section has a thickness less than approximately 1000  $\mu\text{m}$ .

15

29. A woven composite fabric as in claim 27, wherein said cross-section has a width less than approximately 10 mm.

30. A woven composite fabric as in claim 26, wherein said fabric has a warp direction and a weft direction, wherein all of said metal elements are present in said warp direction.

20

31. A woven composite fabric as in claim 26, wherein said fabric has a warp direction and a weft direction, wherein said metal elements are present in said warp direction, and wherein said polymer tapes are present in said weft direction.

25

32. A woven composite fabric as in claim 26, wherein said metal elements have an inweaving factor substantially equal to 1.

30

33. A woven composite fabric as in claim 26, wherein said metal elements are steel cords.

34. A woven composite fabric as in claim 26, wherein said fabric has a plain woven structure.
35. A woven composite fabric as in claim 26, wherein said fabric has 5 a double weft structure worked in a plain-weave manner.
36. A woven composite fabric as in claim 26, wherein each of said metal elements is coated with a polymer layer.
- 10 37. A reinforced hose comprising:
  - a hose; and
  - a woven composite fabric as in claim 26 connected to the hose.
- 15 38. A woven composite fabric as in claim 26, wherein said metal elements are separated by a distance not greater than approximately 1000  $\mu\text{m}$ .
- 20 39. A woven composite fabric, said fabric comprising metal elements and polymer elements, said metal elements comprising at least one of metal wires, bundles of metal wires, metal strands and metal cords, wherein said polymer elements are polymer tapes, and wherein a number of said metal elements present in one of a warp and a weft direction is not less than approximately one-third a number of said polymer elements present in said one of a warp and a weft direction.
- 25 40. A woven composite fabric as in claim 39, wherein each of said polymer tapes has an essentially rectangular cross-section.
- 30 41. A woven composite fabric as in claim 40, wherein said cross-section has a thickness less than approximately 1000  $\mu\text{m}$ .

42. A woven composite fabric as in claim 40, wherein said cross-section has a width less than approximately 10 mm.

5 43. A woven composite fabric as in claim 39, wherein said fabric has a warp direction and a weft direction, wherein all of said metal elements are present in said warp direction.

10 44. A woven composite fabric as in claim 39, wherein said fabric has a warp direction and a weft direction, wherein said metal elements are present in said warp direction, and wherein said polymer tapes are present in said weft direction.

15 45. A woven composite fabric as in claim 39, wherein said metal elements have an inweaving factor substantially equal to 1.

46. A woven composite fabric as in claim 39, wherein said metal elements are steel cords.

20 47. A woven composite fabric as in claim 39, wherein said fabric has a plain woven structure.

48. A woven composite fabric as in claim 39, wherein said fabric has a double weft structure worked in a plain-weave manner.

25 49. A woven composite fabric as in claim 39, wherein each of said metal elements is coated with a polymer layer.

50. A reinforced hose comprising:  
a hose; and  
30 a woven composite fabric as in claim 39 connected to the hose.